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## 特許協力条約

## 国際予備審査報告

(法第12条、法施行規則第56条)  
〔PCT36条及びPCT規則70〕

出願人又は代理人 の書類記号 H1748-01	今後の手続きについては、国際予備審査報告の送付通知（様式PCT/ IPEA/416）を参照すること。	
国際出願番号 PCT/JP03/06965	国際出願日 (日.月.年) 02.06.2003	優先日 (日.月.年) 18.10.2002
国際特許分類 (IPC) Int.Cl. G11B7/007 G11B7/004 G11B20/10 G11B20/12		
出願人 (氏名又は名称) 松下電器産業株式会社		

1. 国際予備審査機関が作成したこの国際予備審査報告を法施行規則第57条（PCT36条）の規定に従い送付する。

2. この国際予備審査報告は、この表紙を含めて全部で 3 ページからなる。

この国際予備審査報告には、附属書類、つまり補正されて、この報告の基礎とされた及び／又はこの国際予備審査機関に対して訂正を含む明細書、請求の範囲及び／又は図面も添付されている。  
(PCT規則70.16及びPCT実施細則第607号参照)

この附属書類は、全部で 4 ページである。

3. この国際予備審査報告は、次の内容を含む。

- I  国際予備審査報告の基礎
- II  優先権
- III  新規性、進歩性又は産業上の利用可能性についての国際予備審査報告の不作成
- IV  発明の單一性の欠如
- V  PCT35条(2)に規定する新規性、進歩性又は産業上の利用可能性についての見解、それを裏付けるための文献及び説明
- VI  ある種の引用文献
- VII  国際出願の不備
- VIII  国際出願に対する意見

国際予備審査の請求書を受理した日 17.11.2003	国際予備審査報告を作成した日 19.05.2004
名称及びあて先 日本国特許庁 (IPEA/JP), 郵便番号100-8915 東京都千代田区霞が関三丁目4番3号	特許庁審査官 (権限のある職員) 岩井 健二 電話番号 03-3581-1101 内線 3550
	5D 9465

様式PCT/IPEA/409 (表紙) (1998年7月)

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## I. 国際予備審査報告の基礎

1. この国際予備審査報告は下記の出願書類に基づいて作成された。(法第6条(PCT14条)の規定に基づく命令に応答するために提出された差し替え用紙は、この報告書において「出願時」とし、本報告書には添付しない。  
PCT規則70.16, 70.17)

 出願時の国際出願書類

明細書 第 1-37 ページ、  
明細書 第 \_\_\_\_\_ ページ、  
明細書 第 \_\_\_\_\_ ページ、

出願時に提出されたもの  
国際予備審査の請求書と共に提出されたもの  
付の書簡と共に提出されたもの

請求の範囲 第 \_\_\_\_\_ 項、  
請求の範囲 第 1-12 項、  
請求の範囲 第 \_\_\_\_\_ 項、  
請求の範囲 第 \_\_\_\_\_ 項、

出願時に提出されたもの  
PCT19条の規定に基づき補正されたもの  
国際予備審査の請求書と共に提出されたもの  
付の書簡と共に提出されたもの

図面 第 1-20 ページ/図、  
図面 第 \_\_\_\_\_ ページ/図、  
図面 第 \_\_\_\_\_ ページ/図、

出願時に提出されたもの  
国際予備審査の請求書と共に提出されたもの  
付の書簡と共に提出されたもの

明細書の配列表の部分 第 \_\_\_\_\_ ページ、  
明細書の配列表の部分 第 \_\_\_\_\_ ページ、  
明細書の配列表の部分 第 \_\_\_\_\_ ページ、

出願時に提出されたもの  
国際予備審査の請求書と共に提出されたもの  
付の書簡と共に提出されたもの

2. 上記の出願書類の言語は、下記に示す場合を除くほか、この国際出願の言語である。

上記の書類は、下記の言語である \_\_\_\_\_ 語である。

- 国際調査のために提出されたPCT規則23.1(b)にいう翻訳文の言語  
 PCT規則48.3(b)にいう国際公開の言語  
 国際予備審査のために提出されたPCT規則55.2または55.3にいう翻訳文の言語

3. この国際出願は、ヌクレオチド又はアミノ酸配列を含んでおり、次の配列表に基づき国際予備審査報告を行った。

- この国際出願に含まれる書面による配列表  
 この国際出願と共に提出された磁気ディスクによる配列表  
 出願後に、この国際予備審査(または調査)機関に提出された書面による配列表  
 出願後に、この国際予備審査(または調査)機関に提出された磁気ディスクによる配列表  
 出願後に提出した書面による配列表が出願時における国際出願の開示の範囲を超える事項を含まない旨の陳述書の提出があった  
 書面による配列表に記載した配列と磁気ディスクによる配列表に記録した配列が同一である旨の陳述書の提出があった。

4. 振正により、下記の書類が削除された。

明細書 第 \_\_\_\_\_ ページ  
 請求の範囲 第 \_\_\_\_\_ 項  
 図面 図面の第 \_\_\_\_\_ ページ/図

5.  この国際予備審査報告は、補充欄に示したように、補正が出願時における開示の範囲を越えてされたものと認められるので、その補正がされなかったものとして作成した。(PCT規則70.2(c) この補正を含む差し替え用紙は上記1.における判断の際に考慮しなければならず、本報告に添付する。)

V. 新規性、進歩性又は産業上の利用可能性についての法第12条（PCT35条(2)）に定める見解、それを裏付ける文献及び説明

## 1. 見解

新規性 (N)	請求の範囲 6, 9, 12 請求の範囲 1-5, 7-8, 10-11	有 無
進歩性 (I S)	請求の範囲 1-12	有 無
産業上の利用可能性 (I A)	請求の範囲 1-12	有 無

## 2. 文献及び説明 (PCT規則70.7)

文献1 : WO 02/25645 A2 (MATSUSHITA ELECTRIC INDUSTRIAL CO LTD) 2002. 03. 28  
 文献2 : JP 2001-77802 A (ソニー株式会社)  
 2001. 03. 23

請求の範囲1に係る発明は新規性、進歩性を有しない。文献1の第31頁第25行ー第42行第17行には、主デジタル情報 (main digital data) と副デジタル情報 (sub-digital data) が記録された光ディスクであって、副デジタル情報が副デジタル管理情報 (sub-digital data management information) に基づいてデータ変換され、データ変換された副デジタル情報に従って、記録マークの位置又は形状の変位により、前記副デジタル情報が前記主デジタル情報に重畠されて記録される光ディスクが記載されている。

請求の範囲2-5、7-8、10-11に係る発明は新規性、進歩性を有しない。文献1 (全文、全図) には、副デジタル管理情報がBCAに予め記録されること、副デジタル管理情報を初期値として発生させた乱数列に基づいて副デジタル情報を生成すること、光ディスクの再生装置及び記録装置も記載されている。

請求の範囲6、9、12に係る発明は進歩性を有しない。文献2 (段落0051-0077) に教示された、暗号化ディスクキーのセットをDVD-RAMの原盤に記録し、暗号化ディスクキーに基づくタイトルキーでコンテンツを暗号化する技術を、文献1に適用することは当業者にとって容易である。

## 請求の範囲

1. (補正後) 基準信号の所定間隔で信号レベルを切り替えることにより記録マークが主情報として形成された情報記録媒体であって、  
5 副情報が、前記情報記録媒体に記録された媒体固有情報または機器無効化情報に基づいてデータ変換され、前記データ変換された副情報に従った、前記記録マークの形状またはパターンの変形、あるいは前記記録マークの位置の変位により、前記副情報が前記主情報に重畠されて記録されることを特徴とする情報記録媒体。
- 10 2. (補正後) 前記媒体固有情報は、再生のみ可能な不可逆的に記録される請求項1記載の情報記録媒体。
3. (補正後) 前記媒体固有情報は、バーストカッティング領域(B  
CA)に記録されている請求項2記載の情報記録媒体。
- 15 4. (補正後) 前記副情報のデータ変換は、前記媒体固有情報または前記機器無効化情報を初期値として発生させた疑似乱数系列に対する前記副情報の相関演算である請求項1記載の情報記録媒体。
5. (補正後) 前記副情報のデータ変換は、前記媒体固有情報または前記機器無効化情報により得られるコンテンツ暗号化鍵を初期値として発生させた疑似乱数系列に対する前記副情報の相関演算である請求項1  
20 記載の情報記録媒体。

6. (補正後) 前記機器無効化情報は、前記情報記録媒体の主情報を暗号化するための暗号化鍵集合である請求項5記載の情報記録媒体。

7. (補正後) 所定の基準信号に同期して、情報記録媒体上の離散的な基準位置に記録マークを形成することによって主情報を記録する主情報記録手段と、  
5 前記情報記録媒体に記録されている媒体固有情報または機器無効化情報の初期値として擬似乱数系列を発生する乱数系列生成手段と、

副情報と、前記乱数系列生成手段により生成された疑似乱数系列とに  
基づいて、前記記録マークの形状またはパターンの変形、あるいは前記  
10 記録マークの位置の変位により、前記副情報を前記主情報に重畠させて  
記録する副情報記録手段とを備えたことを特徴とする情報記録装置。

8. (補正後) 前記媒体固有情報は、再生のみ可能な不可逆的に記録  
されたバーストカッティング領域(BCA)から予め読み出される請求  
項7記載の情報記録装置。

9. (補正後) 前記機器無効化情報は、前記主情報を暗号化するための暗号化鍵集合であり、前記乱数系列生成手段の初期値は、少なくとも1つの暗号化鍵集合である請求項7記載の情報記録装置。

10. (補正後) 情報記録媒体上に離散的に配置された基準間隔の整5 数倍長の記録マークから、主情報を再生する主情報再生手段と、

前記記録マークを再生した時の再生信号から、前記基準間隔に同期したクロックを抽出するクロック抽出手段と、

前記情報記録媒体に記録されている媒体固有情報または機器無効化情報を取り、前記媒体固有情報または前記機器無効化情報を初期値として擬似乱数系列を発生する乱数系列生成手段と、

前記主情報再生手段により再生された再生信号と、前記クロック抽出手段により抽出されたクロックと、前記乱数系列生成手段により生成された疑似乱数系列に基づいて、副情報を再生する副情報再生手段とを備えたことを特徴とする情報再生装置。

11. (補正後) 前記副情報再生手段は、再生のみ可能な不可逆的に記録されたバーストカッティング領域(BCA)から前記媒体固有情報を予め読み出す請求項10記載の情報再生装置。

12. (補正後) 前記機器無効化情報は、前記主情報を暗号化するための暗号化鍵集合であり、前記乱数系列生成手段の初期値は、少なくとも1つの暗号化鍵集合である請求項10記載の情報再生装置。

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ANN 34 AME

PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference  H1748-01	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No.  PCT/JP2003/006965	International filing date (day/month/year)  02 June 2003 (02.06.2003)	Priority date (day/month/year)  18 October 2002 (18.10.2002)
International Patent Classification (IPC) or national classification and IPC  G11B 7/007, 7/004, 20/10, 20/12		
Applicant  MATSHUSITA ELECTRIC INDUSTRIAL CO., LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand  17 November 2003 (17.11.2003)	Date of completion of this report  19 May 2004 (19.05.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/006965

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed the description:

pages \_\_\_\_\_ 1-37 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ , filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

 the claims:

pages \_\_\_\_\_ , as originally filed  
 pages \_\_\_\_\_ 1-12 \_\_\_\_\_, as amended (together with any statement under Article 19)  
 pages \_\_\_\_\_ , filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

 the drawings:

pages \_\_\_\_\_ 1-20 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ , filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_ , as originally filed  
 pages \_\_\_\_\_ , filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is: the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheets/fig \_\_\_\_\_5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/JP 03/06965

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	6, 9, 12	YES
	Claims	1-5, 7-8, 10-11	NO
Inventive step (IS)	Claims		YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

## 2. Citations and explanations

Document 1: WO 02/25645 A2 (Matsushita Electric  
Industrial Co., Ltd.), 28 March 2002

Document 2: JP 2001-77802 A (Sony Corp.), 23 March 2001

The invention described in claim 1 lacks novelty and does not involve an inventive step. Document 1 (page 31, line 25 to page 42, line 17) discloses an optical disk on which are recorded main digital data and sub-digital data, wherein data conversion is performed on the sub-digital data according to sub-digital data management information, and in accordance with the data-converted sub-digital data, the aforementioned sub-digital data is superposed and recorded on top of the aforementioned main digital data by displacing the position or shape of the recording marks.

The invention described in claims 2 to 5, 7 and 8, and 10 and 11 lacks novelty and does not involve an inventive step. Document 1 (entire text, all drawings) also discloses a feature wherein sub-digital data management information is recorded beforehand in a BCA; a feature wherein sub-digital data is produced according to a random number series generated using the sub-digital

data management information as an initial value; and an optical disk playback device and recording device.

The inventions described in claims 6, 9, and 12 do not involve an inventive step. A person skilled in the art could easily conceive of applying the feature wherein a set of encryption disk keys are recorded on a DVD-RAM master disk, and content is encrypted using a title key based on the encryption disk keys, disclosed in document 2 (paragraphs [0051] to [0077]), to the invention disclosed in document 1.

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JULY 31 AMET

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22 October 2003

World Intellectual Property Organization  
PCT Division  
34 Chemin des Colombettes  
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Switzerland

"Amendment of the claims under Article 19(1) (Rule 46)"

Re: International Application No./ PCT/JP03/06965  
Applicant: MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.  
Agent: IKEUCHI • SATO & PARTNER PATENT ATTORNEYS  
International Filing Date: 2 June 2003  
Our Ref.: H1748-01

Dear Sir:

The Applicant, who received the International Search Report relating to the above-identified International Application transmitted on 9 September 2003, hereby files amendment under Article 19(1) as in the attached sheets.

That is, claims 1-12 are amended.

Sincerely yours,

IKEUCHI SATO & PARTNER PATENT ATTORNEYS  
Representative Partner  
Hiroyuki IKEUCHI

Attachment:

(1) Amendment under Article 19(1) 4 sheets

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ART 34 AMDT

## CLAIMS

1. An information recording medium in which a recording mark is formed as main information by switching a signal level at a predetermined interval of a reference signal,
  - wherein sub-information is recorded by deformation of a shape or a pattern of the recording mark or positional displacement of the recording mark based on the sub-information and medium inherent information of the information recording medium.
- 10 2. An information recording medium in which a recording mark is formed as main information by switching a signal level at a predetermined interval of a reference signal,
  - wherein sub-information is recorded by deformation of a shape or a pattern of the recording mark or positional displacement of the recording mark based on the sub-information and apparatus nullification information for nullifying recording and reproduction of the main information recorded on the information recording medium.
- 15 3. An information recording medium in which a recording mark is formed as main information by switching a signal level at a predetermined interval of a reference signal,
  - wherein sub-information is recorded by deformation of a shape or a pattern of the recording mark or positional displacement of the recording mark based on the sub-information and apparatus inherent information of an apparatus that has recorded the main information on the information recording medium.
- 20 4. The information recording medium according to claim 2,
  - wherein the apparatus nullification information of the information recording medium is an encryption key set that encrypts the main information of the information recording medium.
- 25 5. An information recording apparatus, comprising:
  - a main information recording unit that records, in synchronization with a predetermined reference signal, main information by forming a recording mark at discrete reference positions on an information recording medium;
  - a random number sequence generating unit that reads out medium
- 30
- 35

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ART 34 AMDT

- inherent information of the information recording medium and generates a pseudo random number sequence related to the medium inherent information; and
- a sub-information recording unit that records sub-information so that the sub-information is superimposed on the main information by deformation of a shape or a pattern of the recording mark or positional displacement of the recording mark based on the sub-information and the pseudo random number sequence generated by the random number sequence generating unit.
6. An information recording apparatus, comprising:
- a main information recording unit that records, in synchronization with a predetermined reference signal, main information by forming a recording mark at discrete reference positions on an information recording medium;
- a random number sequence generating unit that generates a pseudo random number sequence related to apparatus nullification information that is recorded on the information recording medium; and
- a sub-information recording unit that records sub-information so that the sub-information is superimposed on the main information by deformation of a shape or a pattern of the recording mark or positional displacement of the recording mark based on the sub-information and the pseudo random number sequence generated by the random number sequence generating unit.
7. An information recording apparatus, comprising:
- a main information recording unit that records, in synchronization with a predetermined reference signal, main information by forming a recording mark at discrete reference positions on an information recording medium;
- a random number sequence generating unit that generates a pseudo random number sequence related to apparatus inherent information that is contained individually in each apparatus; and
- a sub-information recording unit that records sub-information so that the sub-information is superimposed on the main information by deformation of a shape or a pattern of the recording mark or positional displacement of the recording mark based on the sub-information and the pseudo random number sequence generated by the random number sequence generating unit.
8. The information recording apparatus according to claim 6, further comprising an apparatus nullification processing unit that generates an encryption key for encrypting the main information by decoding the encrypted

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apparatus nullification information that is recorded on the information recording medium using apparatus inherent information of an apparatus that performs recording with respect to the information recording medium.

- 5    9.     An information reproducing apparatus, comprising:
  - a main information reproducing unit that reproduces main information from a recorded mark having a length that is an integral multiple of a discrete reference interval on an information recording medium;
  - a clock extracting unit that extracts a clock that is synchronized with the reference interval from a reproduced signal obtained when the recorded mark is reproduced;
  - a random number sequence generating unit that reads out medium inherent information of the information recording medium and generates a pseudo random number sequence related to the medium inherent information; and
- 10    15.    a sub-information reproducing unit that reproduces sub-information based on the reproduced signal reproduced by the main information reproducing unit, the clock extracted by the clock extracting unit, and the pseudo random number sequence generated by the random number sequence generating unit.
- 20    10.    An information reproducing apparatus, comprising:
  - a main information reproducing unit that reproduces main information from a recorded mark having a length that is an integral multiple of a discrete reference interval on an information recording medium;
  - a clock extracting unit that extracts a clock that is synchronized with the reference interval from a reproduced signal obtained when the recorded mark is reproduced;
  - a random number sequence generating unit that generates a pseudo random number sequence related to apparatus nullification information recorded on the information recording medium; and
- 25    30.    a sub-information reproducing unit that reproduces sub-information based on the reproduced signal reproduced by the main information reproducing unit, the clock extracted by the clock extracting unit, and the pseudo random number sequence generated by the random number sequence generating unit.
- 35    11.    An information reproducing apparatus, comprising:
  - a main information reproducing unit that reproduces main information from a recorded mark having a length that is an integral multiple of a discrete

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reference interval on an information recording medium;

a clock extracting unit that extracts a clock that is synchronized with the reference interval from a reproduced signal obtained when the recorded mark is reproduced;

5        a random number sequence generating unit that generates a pseudo random number sequence related to medium inherent information that is contained individually in each apparatus; and

10      a sub-information reproducing unit that reproduces sub-information based on the reproduced signal reproduced by the main information reproducing unit, the clock extracted by the clock extracting unit, and the pseudo random number sequence generated by the random number sequence generating unit.

12.      The information reproducing apparatus according to claim 10, further comprising an apparatus nullification processing unit that generates a decoding key for decoding the main information by decoding the encrypted apparatus nullification information that is recorded on the information recording medium using apparatus inherent information of an apparatus that performs reproduction with respect to the information recording medium.

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